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Health and Environmental Safety Assessment of Genetically Modified Foods

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Abstract

Throughout the ages, humans have used selective breeding techniques to create plants and animals with desirable genetic traits. One type of technology, however, has given rise to a host of concerns and questions, namely Genetically Modified Organisms (GMOs). GMOs are those organisms that have been modified by the application of recombinant DNA technology or genetic engineering, a technique used for altering a living organism's genetic material. With the rapid advances in biotechnology, a number of genetically modified (GM) foods or transgenic crops carrying novel traits have been developed and released for commercial agriculture production. A number of commercialized, genetically engineered (GE) varieties, most notably canola, cotton, maize and soybean, were created using this technology, and at present the traits introduced are herbicide and pest tolerance. Gene technology enables the increase of production in plants, as well as the rise of resistance to pests, viruses, frost, etc. Gene transfer is used to modify the physical and chemical composition and nutritional value of food. On the other hand, negative effects of gene technology on animals, human, and environment should be considered. The present review article is the compilation of various studies that present both positive and negative impacts of genetically modified food on human health and environment.

Key words: Genetically Modified Foods, biotechnology, human health, environment, desirable traits.